

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-59 (previously canceled).

Claims 60-65 (canceled).

Claim 66 (allowed): A method for producing an exogenous interferon  $\alpha$  or erythropoietin protein in an egg of a chicken, which method comprises:

- a) providing an avian leukosis viral vector comprising a nucleic acid sequence encoding an exogenous interferon  $\alpha$  or erythropoietin protein, and a constitutive promoter operably linked to said sequence, wherein said promoter drives expression of the encoding sequence in the chicken oviduct;
- b) introducing said vector into chicken stage X embryonic cells;
- c) incubating said embryonic cells under conditions conducive to hatching live chicks;
- d) nurturing growth of a mature chimeric chicken from said chicks;
- e) mating said chimeric chicken, either naturally or via artificial insemination, with a non-transgenic chicken;
- f) identifying a transgenic chicken by screening the progeny of step e) for germ line incorporation of the protein encoding sequence; and
- g) mating the transgenic progeny with non-transgenic chickens to produce eggs containing the exogenous protein.

Claim 67 (allowed): A method of claim 66 for producing an exogenous interferon  $\alpha$  protein.

Claim 68 (allowed): A method of claim 66 for producing an exogenous erythropoietin protein.

Claim 69 (allowed): The method of claim 66 further comprising extracting the exogenous protein from the egg.

Claim 70 (new): A method for producing an exogenous interferon  $\alpha$  or erythropoietin protein in an egg of a chicken, which method comprises:

a) providing an avian leukosis viral vector comprising a nucleic acid sequence encoding an exogenous interferon  $\alpha$  or erythropoietin protein, and a constitutive promoter operably linked to said sequence, wherein said promoter drives expression of the encoding sequence in the chicken oviduct;

b) introducing said vector into chicken stage X embryonic cells;  
c) incubating said embryonic cells under conditions conducive to hatching live chicks;  
d) nurturing growth of a mature chimeric chicken from said chicks;  
e) mating said chimeric chicken, either naturally or via artificial insemination, with a non-transgenic chicken;

f) identifying a transgenic chicken by screening the progeny of step e) for germ line incorporation of the protein encoding sequence;

g) mating the transgenic progeny with non-transgenic chickens to produce said egg containing the exogenous protein; and

h) extracting the exogenous protein from the egg.

Claim 71 (new): A method of claim 70 for producing an exogenous interferon  $\alpha$  protein.

Claim 72 (new): A method of claim 70 for producing an exogenous erythropoietin protein.

Claim 73 (new): A method for producing an exogenous interferon  $\alpha$  or erythropoietin protein in an egg of a chicken, which method comprises:

a) providing an avian leukosis viral vector comprising a nucleic acid sequence encoding an exogenous interferon  $\alpha$  or erythropoietin protein, and a constitutive promoter operably linked to said sequence, wherein said promoter drives expression of the encoding sequence in the chicken oviduct;

b) introducing said vector into chicken stage VII-XII embryonic cells;  
c) incubating said embryonic cells under conditions conducive to hatching live chicks;  
d) nurturing growth of a mature chimeric chicken from said chicks;  
e) mating said chimeric chicken, either naturally or via artificial insemination, with a non-transgenic chicken;

f) identifying a transgenic chicken by screening the progeny of step e) for germ line incorporation of the protein encoding sequence; and

g) mating the transgenic progeny with non-transgenic chickens to produce eggs containing the exogenous protein.

Claim 74 (new): A method of claim 73 for producing an exogenous interferon  $\alpha$  protein.

Claim 75 (new): A method of claim 73 for producing an exogenous erythropoietin protein.

Claim 76 (new): The method of claim 73 further comprising extracting the xogenous protein from the egg.